

MARK L. SIVAK

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PERSONAL SUMMARY

Mechanical Engineer with a unique passion for the entertainment and education technology industry. Adapts and thrives with dynamic challenges, interactions, and environments. Excels in imaginative design, innovative solutions, and finishing projects to specification on time. Proven ability to be an effective team leader and member in diverse environments.

PERSONAL INFORMATION

Nationality: American

Resident: Massachusetts, USA

Date of birth: November 17, 1983

Gender: Male

Marital Status: Single

Dependants: Zero

EDUCATION

Graduate

Northeastern University, Boston, MA

September 2007-May 2009

Masters of Science in Mechanical Engineering

Honors: Awarded Research Assistant-ship from the Mechatronics and Robotics Laboratory.

Research: Design and Development of Hand and Arm Rehabilitation Devices using
Electrorheological Fluid and Virtual Reality Interactive Software.

Undergrad

Northeastern University, Boston, MA

September 2002-May 2007

Bachelor of Science in Mechanical Engineering, QPA: 3.22

Honors: National Society of Collegiate Scholars, Excellence Scholarship

Non-engineering Classes: Modern Philosophy, Short Fiction, Science Fiction, Technology
Entrepreneurship and Logic

Activities

Northeastern Club Rugby

Fall 2002-Fall 2006

- Equipment Officer in 2003: charged with purchasing, maintenance, and budgeting for all equipment
- Ombudsman in 2004/2005: acted as the liaison and voice for the players to the captains and coaches

Engineering Peer Mentor

Fall of 2004/2006

- Peer Mentors volunteer to help the Professors teach the introduction to engineering course
- Taught, gave advice, and support to freshman engineering students on topics like ethics, time management, and decision making
- Created PowerPoint presentations, ice breakers, and board games to help the students have fun and adapt to college life

WORK EXPERIENCE

Northeastern University, Boston, MA
Research Assistant

Part-time Summer 2007

- Designed and Manufactured Rapid Prototyped parts using the ViperSLA machine
- Proposed and designed all software to be used in the device

Lexitek Inc., Wellesley, MA
Mechanical Engineering Co-op

Spring 2006 (Jan-June)

- Fabricated advanced adaptive optical equipment and supporting devices
- Designed methods and procedures to streamline time consuming tasks
- Worked in a clean room environment, optical lab, and machine shop on adaptive optics

Mercury Computer Systems Inc., Chelmsford, MA
Mechanical Engineering Co-op

Spring 2004/2005 (Jan-June)

- Completed projects that started by design in CAD and ended with implementation in the lab
- Interacted with different departments as well as customers and suppliers to complete projects
- Worked in a electronics lab environment and machine shop on high end rugged computers and testing equipment
- Was able to lead projects as the chief mechanical engineer

Apex Fly fishing
Mechanical Designer and Engineer

Part-time Fall 2005-Fall 2006

- Researched new and innovative materials and manufacturing procedures for the industry
- Designed unique products for fly fishing from brainstorming to CAD to prototype
- Provided information as an expert that lead to direct decisions about products

COMPUTER SKILLS

CAD/Analysis

Autodesk Inventor: Four years experience using Inventor as a modeling, design, and CAD package

AutoCAD: Four years experience using AutoCAD for all 2D design

Solidworks: Two years experience

Rapidform: One year of experience using Rapidform for 3D scanning to CAD applications

ANSYS: Two years experience using ANSYS for finite element analysis

Matlab: Four years experience both in programming and graphical analysis

LabView: Two years experience using LabView to create and prototype controls for devices

Graphics

Photoshop: Four years experience using several versions of Photoshop

Pro Motion: Three years experience using Promotion for pixel art and 2D animation

Corel Painter: One year of experience

Macromedia Flash: Three years experience using Flash for websites, games, and graphics

Programming

HTML: Two years experience using HTML for web design

Visual C#: One year of experience, being used to write a game and controller GUI

C++: Less than a year experience, mostly a beginner

Office/Communication

Microsoft Office Suite: Eight years experience using every program including Visio and Project

OpenOffice Suite: Two years experience using this open source package

PRESENTATIONS AND PAPERS

Sandbox Symposium

August 2007

Managing the Tradeoffs in the Digital Transformation of an Educational Board Game to a Computer-based Simulation

The paper and presentation for this conference was based on Shortfall a video game aimed to teach undergraduate students about environmentally benign manufacturing. This work was completed in an independent study completed in the spring semester of 2006. This paper and presentation focuses on the process of bringing Shortfall from a board game to a digital environment.

Games + Learning + Society Conference

July 2007

Evolution of Multiplayer Educational Simulations: Board Games to Broadband

This presentation is also based on Shortfall and focuses on the process of bringing Shortfall from a board game to a digital environment.

Senior Capstone Design Project

Design of Patient Specific Ankle-Foot Orthotic

Fall 2005/2006

In this project the team redesigned the fitting process of a posterior-leaf spring orthotic device by using advanced technology in 3D scanning and rapid prototyping. The exterior data of the patient's leg was collected using a 3D scanner and then manipulated in CAD and manufactured using an SLA rapid prototyping machine. This process is much simpler, faster, and less invasive than traditional methods. A patent for the process and the product is pending. Also a journal paper will be completed by August 2007.

Peer Mentor Engineering Majors Game

So You Want to be an Engineer

Fall 2004

The purpose of this project was to create an engaging, interactive, and informational game to provide new, undecided engineering students with the proper knowledge to choose the correct major. The game was designed to provide as much information as a traditional PowerPoint presentation about the engineering majors. It is currently in use for the GE100 curriculum.

Major Undergraduate Academic Paper

Analysis of User Input Designs for the Nokia N-Gage QD

Fall 2004

This paper discussed the design of the Nokia N-Gage and why it was not an efficient platform to play video games. After conducting research on how to properly gain feedback about an input device and about what forms of input were the most ergonomic, inexpensive, responsive, robust, and intuitive recommendations were presented to make full use of the unique qualities of the N-Gage.

PROFESSIONAL AFFILIATIONS

American Society for Mechanical Engineers: Joined in 2002

American Society of Engineering Educators: Joined in 2006

Association for Computing Machinery: Joined in 2006

International Game Developers Association: Joined in 2005

BACKGROUND AND INTERESTS

- Certified Scuba Diver
- Interested in serious video games, web and game design, sports, cooking, writing and reading science fiction and fantasy, and pixel art.
- For more interests and projects visit www.gametruth.org and www.marksivak.net